

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION

REDZONE ROBOTICS, INC.

Plaintiff,

v.

SEWERVUE, INC.

Defendant.

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C.A. No. 20-cv-1045

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff RedZone Robotics, Inc. (“RedZone” or “Plaintiff”) demands a trial by jury on all issues so triable, and for its complaint against Defendant SewerVue, Inc. (“SewerVue” or “Defendant”), alleges as follows:

THE PARTIES

1. RedZone is a Delaware corporation with its principal place of business at 195 Thorn Hill Rd. Ste 110, Warrendale, PA 15086.
2. On information and belief, SewerVue is a Canadian corporation with a principal place of business at Suite 106, 16 Fawcett Rd., Coquitlam, BC V3K 6X9, Canada.
3. RedZone brings this lawsuit as a result of SewerVue’s infringement of certain of its intellectual property rights.

JURISDICTION AND VENUE

4. This lawsuit is an action for patent infringement arising under the patent laws of the United States, Title 35 of the United States Code.

5. This Court has subject matter jurisdiction over this action pursuant to 28 U.S.C. §§ 1331 and 1338(a).

6. Additionally, SewerVue is subject to jurisdiction in the United States, and specifically in Texas, pursuant to FED. R. CIV. P. 4(k)(2). SewerVue has contacts with the United States that include, *inter alia*, advertising, offering to sell, and/or selling its products and software throughout the United States, including Texas and this District.

7. Venue is proper pursuant to 28 U.S.C. §§ 1391 and 1400(b) because, as a foreign entity committing infringing acts in the United States, the Federal Circuit has determined that venue is appropriate in any U.S. judicial district. *See In re HTC Corp.*, 889 F.3d 1349 (Fed. Cir. 2018).

THE PATENTS-IN-SUIT

8. On August 22, 2017, the U.S. Patent and Trademark Office duly and lawfully issued U.S. Patent No. 9,739,792 (“the ’792 patent”), entitled “Device for Pipe Inspection and Method of Using Same,” naming Christopher C. Atwood, Richard P. Juchniewicz, Eric Kratzer, Adam Slifko, and Philip Jake Johns as the inventors. RedZone is the owner by assignment of all right, title and interest in the ’792 patent and has exclusive right to bring suit to enforce the patent. A true and correct copy of the ’792 patent is attached hereto as Exhibit 1.

9. On June 18, 2013, the U.S. Patent and Trademark Office duly and lawfully issued U.S. Patent No. 8,467,049 (“the ’049 patent”), entitled “Manhole Modeler Using a Plurality of Scanners to Monitor the Conduit Walls and Exterior,” naming Scott M. Thayer, Eric C. Close, Adam Slifko, and Subramanian Vallapuzha as the inventors. RedZone is the owner by assignment of all right, title and interest in the ’049 patent and has exclusive right to bring suit to enforce the patent. A true and correct copy of the ’049 patent is attached hereto as Exhibit 2.

10. On September 11, 2018, the U.S. Patent and Trademark Office duly and lawfully issued U.S. Patent No. 10,072,800 (“the ’800 patent”), entitled “Graphically Representing a Condition of Infrastructure,” naming Trevor Logan, Richard Ashcroft, Antony Van Iersel, Michael Garnett, Timothy Renton, Grant Scogings, and Michael Langley as the inventors. RedZone is the owner by assignment of all right, title and interest in the ’800 patent and has exclusive right to bring suit to enforce the patent. A true and correct copy of the ’800 patent is attached hereto as Exhibit 3.

11. On September 3, 2013, the U.S. Patent and Trademark Office Duly and lawfully issued U.S. Patent No. 8,525,124 (“the ’124 patent”), entitled “Device for Pipe Inspection and Method of Using Same,” naming Christopher C. Atwood, Richard P. Juchniewicz, Eric Kratzer, Adam Slifko, and Philip Jake Johns as the inventors. RedZone is the owner by assignment of all right, title and interest in the ’124 patent and has exclusive right to bring suit to enforce the patent. A true and correct copy of the ’124 patent is attached hereto as Exhibit 4.

BACKGROUND

12. RedZone is a robotics company that provides a variety of wastewater and in-pipe inspection solutions, including the RedZone Solo and Responder in-pipe inspection systems, to help municipalities, authorities, and engineering firms assess and evaluate the condition of their wastewater pipes.

13. RedZone’s Solo and Responder inspection systems provide clients with multi-sensor pipe inspection that go beyond the traditional optical assessment. RedZone uses a combination of high definition CCTV, sonar, and laser technology to create a three-dimensional model of the pipeline, making it possible to repair, clean, or replace only those segments in the worst condition, instead of the entire system.

14. On information and belief, SewerVue makes, uses, sells, offers to sell and/or imports in the United States pipe inspection robots for wastewater pipe inspection applications, including the Surveyor pipe inspection robot. SewerVue's Surveyor pipe inspection robot and associated software for wastewater pipe inspection ("Accused Products") embody and/or use the patented apparatuses, systems, and methods at issue.

15. SewerVue's Accused Products directly compete with RedZone Solo and Responder pipe inspection systems. On information and belief, SewerVue developed, made, and sold its robots and software with the intent to directly compete with RedZone's robots and software. The market for pipe inspection robots and related software products is small and contains a limited number of competitors, with RedZone being a known pioneer with whom SewerVue has great familiarity. Upon information and belief, SewerVue has had ample access to RedZone's technology and knew or should have known of RedZone's patents including the patents at issue, as it developed and sold its competitive products.

COUNT ONE - INFRINGEMENT OF THE '792 PATENT

16. RedZone incorporates by reference its allegations in Paragraphs 1–15 as if fully restated in this paragraph.

17. On information and belief, SewerVue has been and is now directly and/or indirectly infringing, literally and/or under the doctrine of equivalents, the '792 patent by making, using, selling, and/or offering for sale in the United States, and/or importing into the United States, the Accused Products.

18. The '792 patent is generally directed to a robot for inspecting a sewer pipe comprising a chassis portion and sensor portion. (Ex. 1 at 3:44–54). The patent describes innovations in autonomous mobile robotics used "to navigate, explore, and map various environments" (Ex. 1 at 3:42–45).

19. The '792 patent discloses a device. According to various embodiments, the device includes a sensor portion and a chassis portion. The sensor portion includes a plurality of sensing devices. The chassis portion is connected to the sensor portion and includes a first track and a second track. The second track is positioned adjacent to the first track. The first and second tracks cooperate to substantially cover an entire width of the chassis portion. (Ex. 1 at 2:33–40)

20. The '792 patent further discloses a method for inspecting an interior of a pipe. The method is implemented by a device. According to various embodiments, the method includes traversing the pipe, and capturing data associated with the pipe while the pipe is being traversed. The traversing and the capturing are performed by the device while a manhole through which the device gained access to the pipe is closed. (Ex. 1 at 2:41–48.)

21. The '792 patent offered technological improvements over the prior art that were not well-understood, routine, or conventional. As one example, the collective width of the described first and second tracks ensure that “when the autonomous mobile robot encounters any debris or feature within the sewer pipe, the first surfaces of the first and second tracks come in contact with the debris or feature” (Ex. 1 at 5:27–31). Thus “in contrast to wheeled robots and narrow track robots, the full coverage wide tracks are configured to enable the autonomous mobile robot to climb over the debris or feature and continue performing the inspection, navigation, and mapping.” (Ex. 1 at 5:30–35).

22. Claim 1 of the '792 patent recites a “method for inspecting the interior of a pipe, comprising: a) traversing the pipe with a mobile pipe inspection robot wherein the mobile pipe inspection robot comprises a chassis portion having a first track and a second track positioned adjacent to the first track, wherein the first track and the second track cover a substantial width

and an entire length of the chassis portion, and are located below a body of the mobile pipe inspection robot, with a substantial portion of the first track and second track located beneath the body of the mobile pipe inspection robot; and b) capturing data associated with an interior of the pipe while the pipe is being traversed using a sensor included in the body of the mobile pipe inspection robot, wherein the traversing comprises accessing a memory device of the mobile pipe inspection robot to execute software configured to control the mobile pipe inspection robot as the mobile pipe inspection robot navigates the interior of the pipe.” (Ex. 1 at claim 1).

23. Upon information and belief, the Accused Products infringe at least claim 1 of the '792 patent. For example, the Accused Products traverse the pipe with a mobile pipe inspection robot wherein the mobile pipe inspection robot comprises a chassis portion having a first track and a second track positioned adjacent to the first track, wherein the first track and the second track cover a substantial width and an entire length of the chassis portion, and are located below a body of the mobile pipe inspection robot, with a substantial portion of the first track and second track located beneath the body of the mobile pipe inspection robot as shown, for example, in the SewerVue Surveyor Brochure:

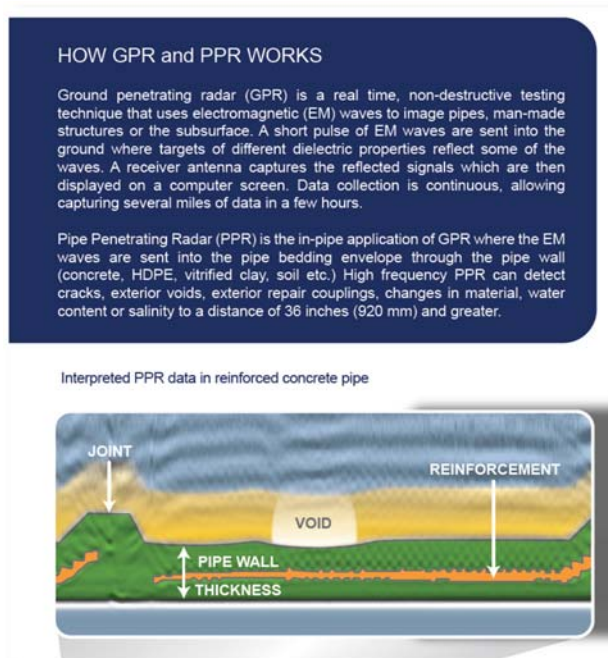


(See, e.g., SewerVue Surveyor Brochure (SewerVue website, available at: https://sewervue.com/downloads/sales/SewerVUE_Surveyor_Brochure_10-2015.pdf) Attached hereto as Exhibit 5).

24. Upon information and belief, the Accused Products capture data associated with an interior of the pipe while the pipe is being traversed using a sensor included in the body of the mobile pipe inspection robot, wherein the traversing comprises accessing a memory device of the mobile pipe inspection robot to execute software configured to control the mobile pipe inspection robot as the mobile pipe inspection robot navigates the interior of the pipe, as shown, for example, in the demonstration video, brochure, and sample report shown below.



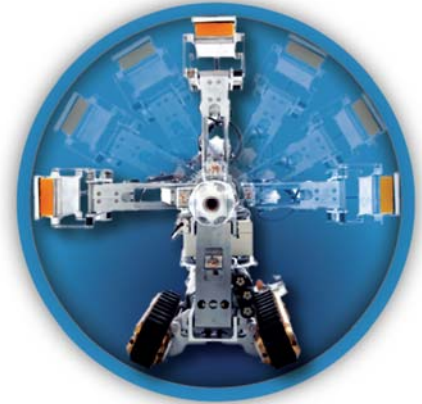
(See, e.g., Ex. 5).



(Id.)

ABOUT SEWERVUE

SewerVUE's pipe penetrating radar (PPR) is a revolutionary patented technology for underground pipe inspection. The remotely operated Surveyor robot merges CCTV data with PPR measurements to accurately identify pipe wall thickness, composition defects, reinforcement cover, locate cracks, voids and cavities outside underground non-metallic pipes. The PPR equipment is track mounted and equipped with two high frequency antennae, which can be remotely rotated to any clocking angle between 9 and 3 o'clock positions. The Surveyor can be adjusted for any pipe diameters of 21 - 60 inch (525 - 1500 mm). SewerVUE's proprietary software analyzes the PPR data and provides easy to understand imagery of all identified elements. Pipe penetrating radar enables pro-active preventative maintenance planning with thorough assessments of critical infrastructure.



(*Id.*)



(*See, e.g.,* SewerVue Pipe Penetrating Radar – In-Pipe GPR on the Surveyor (YouTube.com, available at: <https://www.youtube.com/watch?v=bfg8TwYWPA>)).

25. SewerVue possesses knowledge of and is aware of the '792 patent by virtue of, at a minimum, filing this Complaint and, on information and belief, had prior knowledge of the '792 patent at least by virtue of its knowledge of the RedZone robot and software being covered by numerous patents including the patents at issue.

26. SewerVue also has been and is now actively inducing infringement of one or more claims of the '792 patent, either literally or under the doctrine of equivalents.

27. On information and belief, SewerVue alone and/or acting in concert with, directing and/or authorizing its clients to make, use, sell, or offer for sale in the United States or

import into the United States the Surveyor robot and its associated software products, possesses an affirmative intent to actively induce infringement by others. On information and belief, SewerVue induces its clients to infringe.

28. SewerVue has intended, and continues to intend to induce infringement of the '792 patent by others and has knowledge, with specific intent, that the inducing acts would cause infringement or has been willfully blind to the possibility that its inducing acts would cause the infringing acts. For example, SewerVue is aware that the features claimed in the '792 patent are features in the Surveyor robot and associated software products and are features used by others that purchase or license the Surveyor robot and associated software products and, therefore, that purchasers and end users will infringe the '792 patent by using the Surveyor robot and associated software products. SewerVue actively induces infringement of the '792 patent with knowledge and the specific intent to encourage that infringement by, *inter alia*, disseminating the Surveyor robot and associated software products and providing promotional materials, marketing materials, training materials, instructions, product manuals, user guides, and technical information (including but not limited to the demonstration video and brochure described in this Count of the Complaint) to others including, but not limited to, resellers, distributors, customers, municipalities, and/or other end users of the Surveyor and related software products. Those third parties directly infringe the '792 patent by making, using, selling, offering for sale, and/or importing the Surveyor and related software products.

29. SewerVue also has been and is now contributing to the infringement of one or more claims of the '792 patent, either literally or under the doctrine of equivalents.

30. SewerVue has actively, knowingly, and intentionally contributed and continues to actively, knowingly, and intentionally contribute to the infringement of the '792 patent by having

sold or offered to sell and continuing to sell or offer for sale the Surveyor robot and/or the associated software products within in the United States and/or by importing the Surveyor robot and/or the associated software products into the United States, with knowledge that the infringing technology in the Surveyor robot and/or the associated software products is especially made and/or especially adapted for use in infringement of the '792 patent. SewerVue has contributed to the infringement by others with knowledge that the infringing technology in the Surveyor robot and/or the associated software products is a material part of the patented invention, and with knowledge that the infringing technology in the Surveyor robot and/or the associated software products is not a staple article of commerce suitable for substantial non-infringing use, and with knowledge that others including, but not limited to, resellers, distributors, customers, municipalities, and/or other end users of the Surveyor robot and/or the associated software products, infringe and will continue to infringe the '792 patent because, due to their specific designs, the Accused Products and components thereof do not have any substantial non-infringing uses. SewerVue has such knowledge at least because the claimed features of the '792 patent are used by others including, but not limited to, resellers, distributors, customers, municipalities, and/or other end users of the Surveyor robot and/or the associated software products.

31. On information and belief, SewerVue knew or should have known of the '792 patent and has acted, and continues to act, in an egregious and wanton manner by infringing the '792 patent. On information and belief, SewerVue's infringement of the '792 patent has been and continues to be willful and deliberate. The market for in-pipe inspection robots and related software products is small and contains a limited number of competitors, with RedZone being a known pioneer with whom SewerVue has great familiarity. SewerVue has had ample access to

RedZone's technology. Upon information and belief, SewerVue knowingly developed and sold its competitive knockoff products in an infringing manner that was known to SewerVue or was so obvious that SewerVue should have known about this infringement.

32. On information and belief, despite knowing that its actions constituted infringement of the '792 patent and/or despite knowing that there was a high likelihood that its actions constituted infringement of the patent, SewerVue nevertheless continued its infringing actions, and continues to make, use and sell its infringing products.

33. SewerVue's acts of infringement have injured and damaged RedZone.

COUNT TWO - INFRINGEMENT OF THE '049 PATENT

34. RedZone incorporates by reference its allegations in Paragraphs 1–33 as if fully restated in this paragraph.

35. On information and belief, SewerVue has been and is now directly and/or indirectly infringing, literally and/or under the doctrine of equivalents, the '049 patent by making, using, selling, and/or offering for sale in the United States, and/or importing into the United States, products covered by one or more of the claims of the '049 patent, including the Accused Products.

36. The '049 patent is generally directed to the use of a pipe-inspection robot to collect data about the interior of the pipe. The patent describes innovations in “systems, apparatuses, and methods for thorough, measurable, accurate, and repeatable collection of inspection data for manholes or other voids.” (Ex. 2 at 3:7–9). Prior methods of inspection “fall short of providing a comprehensive, repeatable, and measurable inspection method” because in those approaches, “data from the entire manhole cannot be readily captured by photographs

and/or video in sufficient detail” and “fail to generate accurate, measurable data” (Ex. 2 at 2:38–45).

37. The '049 patent discloses a system in which “[a] sensor head is suspended and lowered into a manhole or other void. The sensor head collects data related to the condition of the manhole or void walls, and locations of defects, damage, or lateral pipe openings.” (Ex. 2 at 3:9–13). That patent further discloses that the system “preferably employs high-resolution digital cameras, wide angle lenses, LED lighting, structured light, Differential Global Positioning System, lasers, radar, sonar, and/or additional sensors to enable precise control during the inspection process.” (Ex. 2 at 3:21–25).

38. The '049 patent offered technological solutions to the failings of the prior art that were not well-understood, routine, or conventional. As one example, the plurality of sensors provide for “comprehensive imaging of internal surfaces of the manhole.” (Ex. 2 at 6:5–8). The invention described in the '049 patent also solves these problems by collecting data regarding an exterior surface of the conduit. (*See, e.g.*, Ex. 2 at claim 1, 18).

39. Claim 1 of the '049 patent recites a “method for inspecting a conduit, the method comprising the steps of: associating a sensor head with a delivery mechanism wherein said sensor head comprises a plurality of scanners; positioning said sensor head within said conduit using said delivery mechanism, further wherein said delivery mechanism is adapted to allow said sensor head to be suspended in said conduit; lowering said sensor head into said conduit; scanning an environment within said conduit using said plurality of scanners, wherein said scanning includes collecting data regarding walls of said conduit, and retrieving said sensor head from said conduit; wherein said data regarding said conduit also includes information regarding materials surrounding an exterior surface of said conduit”. (Ex. 2 at claim 1).

40. Upon information and belief, the Accused Products infringe at least claim 1 of the '049 patent. For example, the Accused Products associate a sensor head with a delivery mechanism wherein said sensor head comprises a plurality of scanners, as shown by the SewerVue Surveyor brochure:



(See, e.g., Ex. 5).

41. Upon information and belief, the Accused Products position said sensor head within said conduit using said delivery mechanism, further wherein said delivery mechanism is adapted to allow said sensor head to be suspended in said conduit, as shown for example by the SewerVue Surveyor brochure:

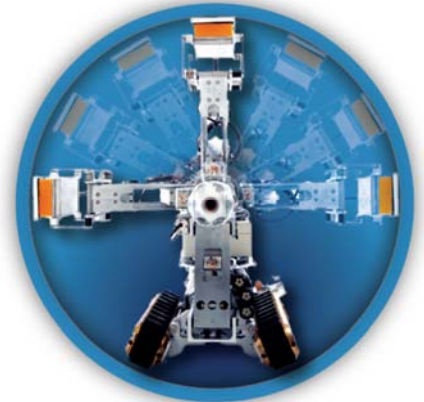


(See, e.g., Ex. 5).

ABOUT SEWERVUE

SewerVUE's pipe penetrating radar (PPR) is a revolutionary patented technology for underground pipe inspection. The remotely operated Surveyor robot merges CCTV data with PPR measurements to accurately identify pipe wall thickness, composition defects, reinforcement cover, locate cracks, voids and cavities outside underground non-metallic pipes. The PPR equipment is track mounted and equipped with two high frequency antennae, which can be remotely rotated to any clocking angle between 9 and 3 o'clock positions. The Surveyor can be adjusted for any pipe diameters of 21 - 60 inch (525 - 1500 mm).

SewerVUE's proprietary software analyzes the PPR data and provides easy to understand imagery of all identified elements. Pipe penetrating radar enables pro-active preventative maintenance planning with thorough assessments of critical infrastructure.



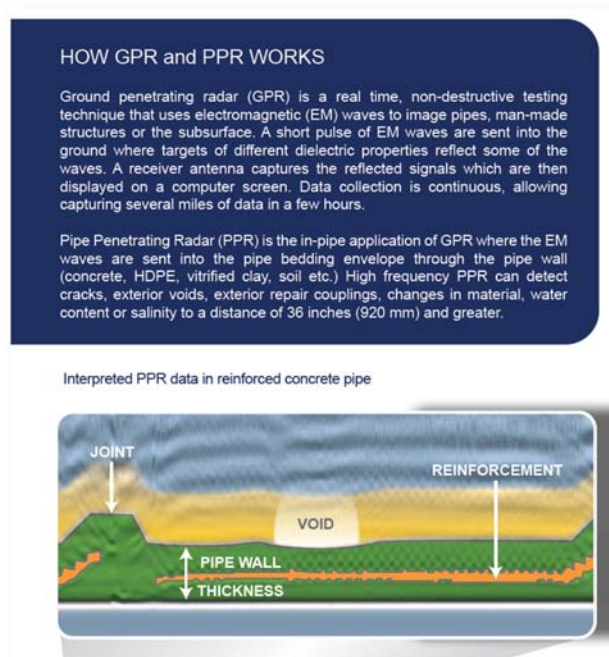
(Id.)

42. Upon information and belief, the Accused Products lower said sensor head into said conduit, as shown for example by the SewerVue promotional Video:

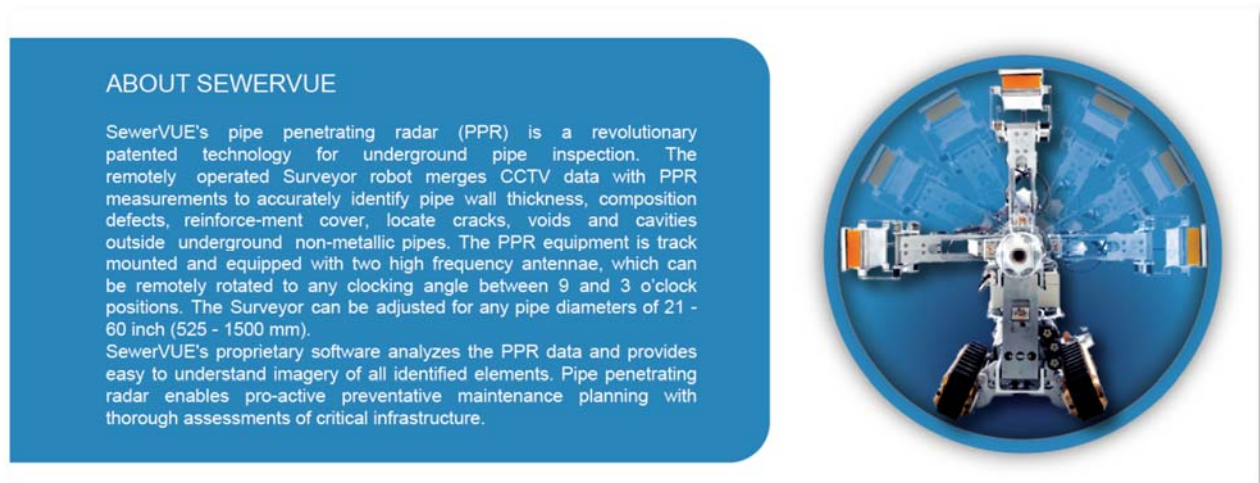


(See, e.g., SewerVue Pipe Penetrating Radar – In-Pipe GPR on the Surveyor (YouTube.com, available at: <https://www.youtube.com/watch?v=bfg8TwYWPA>)).

43. Upon information and belief, the Accused Products scan an environment within said conduit using said plurality of scanners, wherein said scanning includes collecting data regarding walls of said conduit, as shown for example by the SewerVue Surveyor Brochure:



(See, e.g., Ex. 5).



(Id.)

44. Upon information and belief, the Accused Products retrieve said sensor head from said conduit; wherein said data regarding said conduit also includes information regarding materials surrounding an exterior surface of said conduit, as shown, for example, in the demonstration video and brochure, shown below.



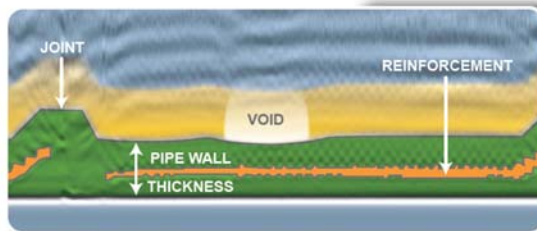
(See, e.g., Ex. 5).

HOW GPR and PPR WORKS

Ground penetrating radar (GPR) is a real time, non-destructive testing technique that uses electromagnetic (EM) waves to image pipes, man-made structures or the subsurface. A short pulse of EM waves are sent into the ground where targets of different dielectric properties reflect some of the waves. A receiver antenna captures the reflected signals which are then displayed on a computer screen. Data collection is continuous, allowing capturing several miles of data in a few hours.

Pipe Penetrating Radar (PPR) is the in-pipe application of GPR where the EM waves are sent into the pipe bedding envelope through the pipe wall (concrete, HDPE, vitrified clay, soil etc.) High frequency PPR can detect cracks, exterior voids, exterior repair couplings, changes in material, water content or salinity to a distance of 36 inches (920 mm) and greater.

Interpreted PPR data in reinforced concrete pipe

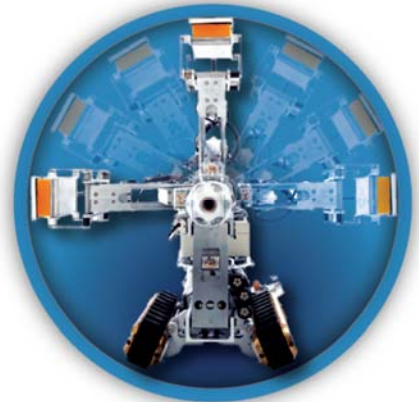


(Id.)

ABOUT SEWERVUE

SewerVUE's pipe penetrating radar (PPR) is a revolutionary patented technology for underground pipe inspection. The remotely operated Surveyor robot merges CCTV data with PPR measurements to accurately identify pipe wall thickness, composition defects, reinforcement cover, locate cracks, voids and cavities outside underground non-metallic pipes. The PPR equipment is track mounted and equipped with two high frequency antennae, which can be remotely rotated to any clocking angle between 9 and 3 o'clock positions. The Surveyor can be adjusted for any pipe diameters of 21 - 60 inch (525 - 1500 mm).

SewerVUE's proprietary software analyzes the PPR data and provides easy to understand imagery of all identified elements. Pipe penetrating radar enables pro-active preventative maintenance planning with thorough assessments of critical infrastructure.



(Id.)



(See, e.g., SewerVue Pipe Penetrating Radar – In-Pipe GPR on the Surveyor (YouTube.com, available at: https://www.youtube.com/watch?v=_bfg8TwYWPA)).

45. SewerVue possesses knowledge of and is aware of the '049 patent by virtue of, at a minimum, the filing of this Complaint and, on information and belief, had prior knowledge of the '049 patent at least by virtue of its knowledge of the RedZone robot and software being covered by numerous patents including the patents at issue, and other facts described above including in at least paragraph 15.

46. SewerVue also has been and is now actively inducing infringement of one or more claims of the '049 patent, either literally or under the doctrine of equivalents.

47. On information and belief, SewerVue alone and/or acting in concert with, directing and/or authorizing its clients to make, use, sell, or offer for sale in the United States or import into the United States the Surveyor robot and its associated software products, possesses an affirmative intent to actively induce infringement by others. On information and belief, SewerVue induces its clients to infringe.

48. SewerVue has intended, and continues to intend to induce infringement of the '049 patent by others and has knowledge, with specific intent, that the inducing acts would cause infringement or has been willfully blind to the possibility that its inducing acts would cause the infringing acts. For example, SewerVue is aware that the features claimed in the '049 patent are features in the Surveyor robot and associated software products and are features used by others that purchase or license the Surveyor robot and associated software products and, therefore, that purchasers and end users will infringe the '049 patent by using the Surveyor robot and associated software products. SewerVue actively induces infringement of the '049 patent with knowledge and the specific intent to encourage that infringement by, *inter alia*, disseminating the Surveyor

robot and associated software products and providing promotional materials, marketing materials, training materials, instructions, product manuals, user guides, and technical information (including but not limited to the demonstration video and brochure described in this Count of the Complaint) to others including, but not limited to, resellers, distributors, customers, municipalities, and/or other end users of the Surveyor and related software products. Those third parties directly infringe the '049 patent by making, using, selling, offering for sale, and/or importing the Surveyor and related software products.

49. SewerVue also has been and is now contributing to the infringement of one or more claims of the '049 patent, either literally or under the doctrine of equivalents.

50. SewerVue has actively, knowingly, and intentionally contributed and continues to actively, knowingly, and intentionally contribute to the infringement of the '049 patent by having sold or offered to sell and continuing to sell or offer for sale the Surveyor robot and/or the associated software products within in the United States and/or by importing the Surveyor robot and/or the associated software products into the United States, with knowledge that the infringing technology in the Surveyor robot and/or the associated software products is especially made and/or especially adapted for use in infringement of the '049 patent. SewerVue has contributed to the infringement by others with knowledge that the infringing technology in the Surveyor robot and/or the associated software products is a material part of the patented invention, and with knowledge that the infringing technology in the Surveyor robot and/or the associated software products is not a staple article of commerce suitable for substantial non-infringing use, and with knowledge that others including, but not limited to, resellers, distributors, customers, municipalities, and/or other end users of the Surveyor robot and/or the associated software products, infringe and will continue to infringe the '049 patent because, due

to their specific designs, the Accused Products and components thereof do not have any substantial non-infringing uses. SewerVue has such knowledge at least because the claimed features of the '049 patent are used by others including, but not limited to, resellers, distributors, customers, municipalities, and/or other end users of the Surveyor robot and/or the associated software products.

51. On information and belief, SewerVue knew or should have known of the '049 patent and has acted, and continues to act, in an egregious and wanton manner by infringing the '049 patent. On information and belief, SewerVue's infringement of the '049 patent has been and continues to be willful and deliberate. The market for in-pipe inspection robots and related software products is small and contains a limited number of competitors, with RedZone being a known pioneer with whom SewerVue has great familiarity. SewerVue has had ample access to RedZone's technology. Upon information and belief, SewerVue knowingly developed and sold its competitive knockoff products in an infringing manner that was known to SewerVue or was so obvious that SewerVue should have known about this infringement.

52. On information and belief, despite knowing that its actions constituted infringement of the '049 patent and/or despite knowing that that there was a high likelihood that its actions constituted infringement of the patent, SewerVue nevertheless continued its infringing actions, and continues to make, use and sell its infringing products.

53. SewerVue's acts of infringement have injured and damaged RedZone.

COUNT THREE - INFRINGEMENT OF THE '800 PATENT

54. RedZone incorporates by reference its allegations in Paragraphs 1–53 as if fully restated in this paragraph.

55. On information and belief, SewerVue has been and is now directly and/or indirectly infringing, literally and/or under the doctrine of equivalents, the '800 patent by

making, using, selling, and/or offering for sale in the United States, and/or importing into the United States, products covered by one or more of the claims of the '800 patent, including the Accused Products.

56. The '800 patent is generally directed to determining variance data for an infrastructure segment using received fluid conveyance infrastructure data. (Ex. 3 at 1:48–54). The patent describes failures of existing systems, where the infrastructure data available was incomplete and inconclusive due to lack of an accurate representation of the condition of the pipe sections making up for the collection system. (Ex. 3 at 1:35–41). These existing systems largely relied on closed-circuit television technologies which provide only for qualitative analysis via video images. (Ex. 3 at 42–44).

57. The '800 patent discloses embodiments that “provide multi-sensor collection of pipe condition data. For example, in addition to CCTV data, embodiments may employ laser and sonar based scanning . . . and/or other sensors such as passive sensors for measuring gas levels, sensors for measuring inclination, sensors for measuring sound, etc.” (Ex. 3 at 3:33–41).

58. The '800 patent offered technological solutions to the failings in the prior art that were not well-understood, routine, or conventional. As one example, the '800 patent provides tools that complement and improve on CCTV inspections and provide “objective, reliable measurements that are presented in useful, intuitive and easily understood formats.” (Ex. 3 at 3:28–34). For example, it describes innovations that may “employ laser and sonar based scanning, which precisely measures a pipeline’s size, shape, water loss, water level, sediment build up, alignment, cross sectional dimensions, longitudinal dimensions, 3D shape, structural deformation, level of corrosion, or the like.” (Ex. 3 at 3:35–39). These measurements can

provide quantitative metrics that can be compared with known original or previously measured pipe conditions to determine quantitative variance data. (Ex. 3 at 6:29–34).

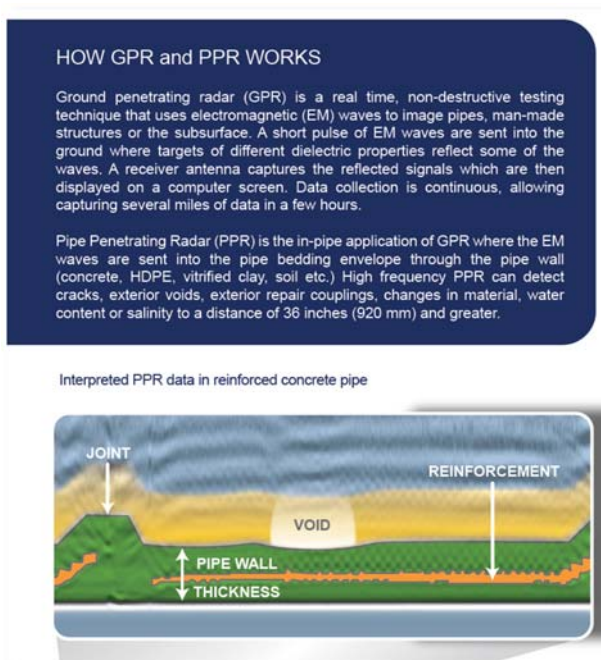
59. Claim 1 of the '800 patent recites a “method for collecting pipe measurement data and graphically representing a condition of a pipe, comprising: obtaining with an inspection robot that traverses through an interior of a water or sewer pipe, in-situ measurement data comprising one or more of laser measurement data and sonar measurement data, the measurement data comprising a series of radial measurements of the interior of the pipe; receiving the measurement data at an electronic device; determining, using the electronic device, variance data for a length of the water or sewer pipe by comparing the received measurement data to ideal pipe data; accumulating, using the electronic device, the variance data into one or more variance bins to produce variance bin values; and displaying using an electronic device comprising a display screen and a processor, a cross-section graphic on the display screen, the cross-section graphic being based on the variance bin values and summarizing the variance data for the length of the pipe; wherein the cross-section graphic comprises a distribution curve graphic that is superimposed directly on top of an ideal pipe graphic, the ideal pipe graphic comprising an interior and exterior wall of an ideal pipe wherein the distribution curve graphic is mapped to a position on the ideal pipe graphic representative of the variance data for the entire length of the pipe.” (Ex. 3 at claim 1).

60. Upon information and belief, the Accused Products infringe at least claim 1 of the '800 patent. For example, the Accused Products obtain with an inspection robot that traverses through an interior of a water or sewer pipe, in-situ measurement data comprising one or more of laser measurement data and sonar measurement data, the measurement data comprising a series

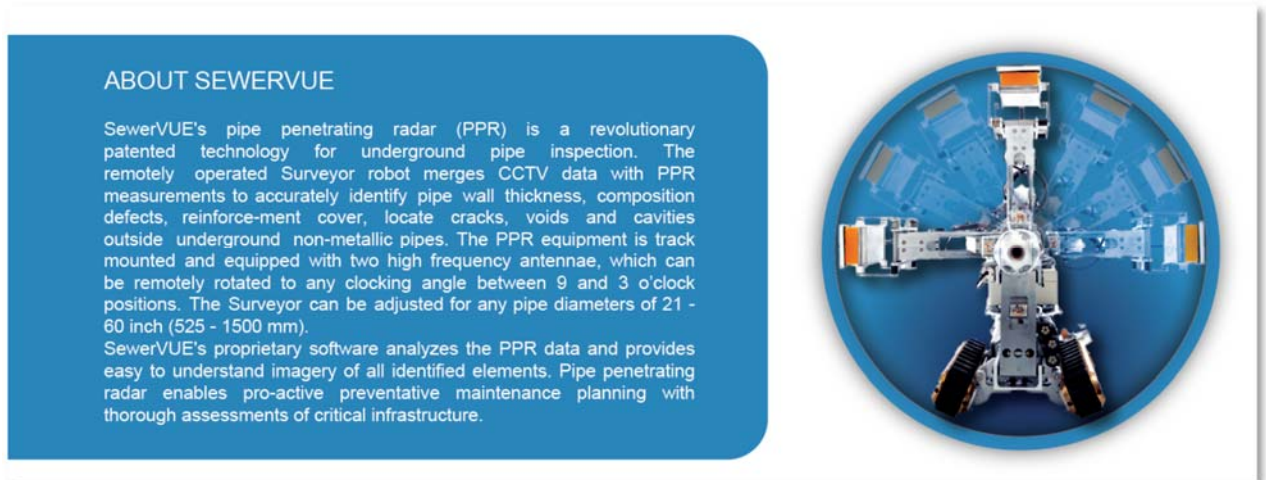
of radial measurements of the interior of the pipe, as shown for example by the SewerVue Surveyor brochure, video, and sample report:



(See, e.g., Ex. 5).



(Id.)



(Id.)



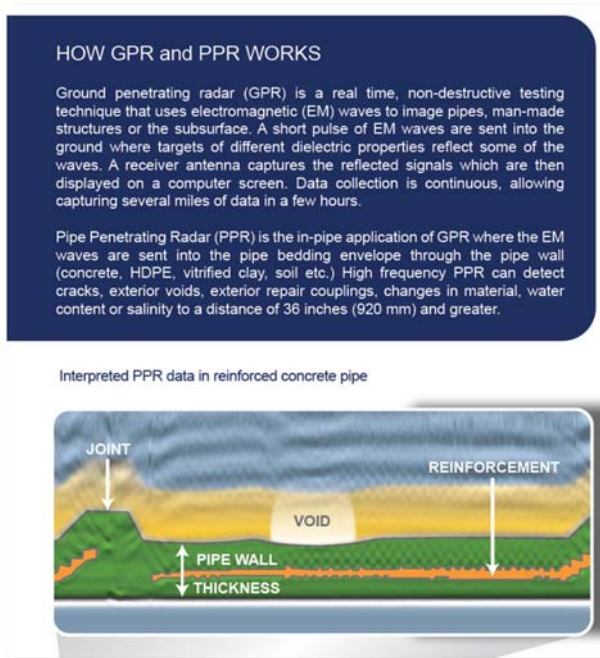
(See e.g. SewerVue Pipe Penetrating Radar – In-Pipe GPR on the Surveyor

(YouTube.com, available at: https://www.youtube.com/watch?v=_bfg8TwYWPA))

61. Upon information and belief, the Accused Products receive the measurement data at an electronic device and determine, using the electronic device, variance data for a length of the water or sewer pipe by comparing the received measurement data to ideal pipe data, as shown, for example, by the SewerVue Surveyor brochure and sample report:



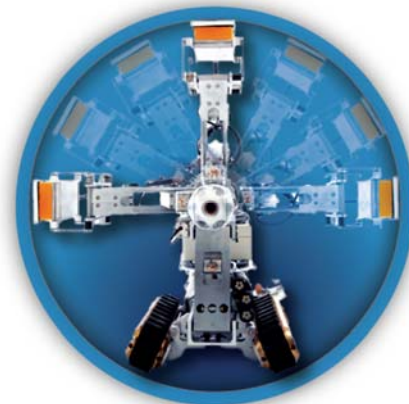
(See, e.g., Ex. 5).



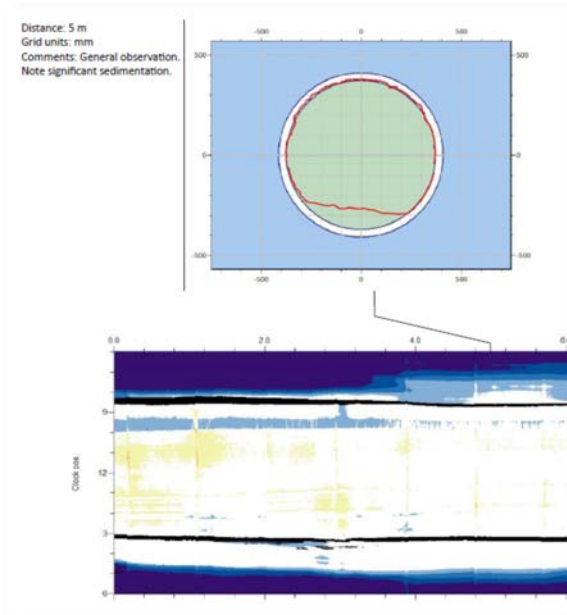
(Id.)

ABOUT SEWERVUE

SewerVUE's pipe penetrating radar (PPR) is a revolutionary patented technology for underground pipe inspection. The remotely operated Surveyor robot merges CCTV data with PPR measurements to accurately identify pipe wall thickness, composition defects, reinforcement cover, locate cracks, voids and cavities outside underground non-metallic pipes. The PPR equipment is track mounted and equipped with two high frequency antennae, which can be remotely rotated to any clocking angle between 9 and 3 o'clock positions. The Surveyor can be adjusted for any pipe diameters of 21 - 60 inch (525 - 1500 mm). SewerVUE's proprietary software analyzes the PPR data and provides easy to understand imagery of all identified elements. Pipe penetrating radar enables pro-active preventative maintenance planning with thorough assessments of critical infrastructure.



(Id.)



(See e.g. SewerVue Sample Report (SewerVue website, available at https://sewervue.com/downloads/sales/2018_MSI_Sample_Report.pdf), attached hereto as Exhibit 6).

62. Upon information and belief, the Accused Products accumulate, using the electronic device, the variance data into one or more variance bins to produce variance bin values; and display using an electronic device comprising a display screen and a processor, a cross-section graphic on the display screen, the cross-section graphic being based on the variance

bin values and summarizing the variance data for the length of the pipe; wherein the cross-section graphic comprises a distribution curve graphic that is superimposed directly on top of an ideal pipe graphic, the ideal pipe graphic comprising an interior and exterior wall of an ideal pipe wherein the distribution curve graphic is mapped to a position on the ideal pipe graphic representative of the variance data for the entire length of the pipe, as shown for example by the SewerVue brochure, video, and sample report:



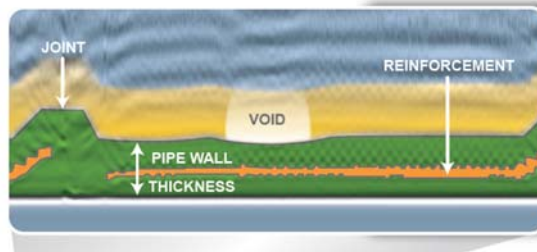
(*See, e.g.*, Ex. 5).

HOW GPR and PPR WORKS

Ground penetrating radar (GPR) is a real time, non-destructive testing technique that uses electromagnetic (EM) waves to image pipes, man-made structures or the subsurface. A short pulse of EM waves are sent into the ground where targets of different dielectric properties reflect some of the waves. A receiver antenna captures the reflected signals which are then displayed on a computer screen. Data collection is continuous, allowing capturing several miles of data in a few hours.

Pipe Penetrating Radar (PPR) is the in-pipe application of GPR where the EM waves are sent into the pipe bedding envelope through the pipe wall (concrete, HDPE, vitrified clay, soil etc.) High frequency PPR can detect cracks, exterior voids, exterior repair couplings, changes in material, water content or salinity to a distance of 36 inches (920 mm) and greater.

Interpreted PPR data in reinforced concrete pipe

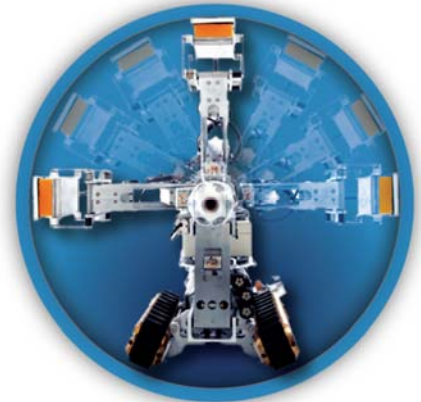


(Id.)

ABOUT SEWERVUE

SewerVUE's pipe penetrating radar (PPR) is a revolutionary patented technology for underground pipe inspection. The remotely operated Surveyor robot merges CCTV data with PPR measurements to accurately identify pipe wall thickness, composition defects, reinforcement cover, locate cracks, voids and cavities outside underground non-metallic pipes. The PPR equipment is track mounted and equipped with two high frequency antennae, which can be remotely rotated to any clocking angle between 9 and 3 o'clock positions. The Surveyor can be adjusted for any pipe diameters of 21 - 60 inch (525 - 1500 mm).

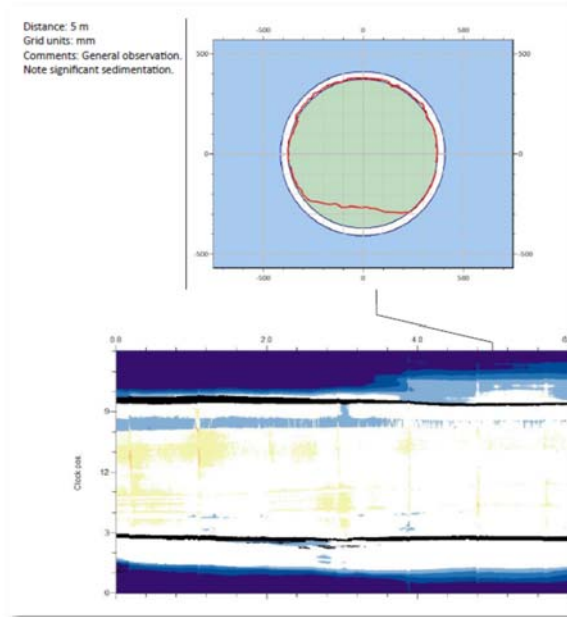
SewerVUE's proprietary software analyzes the PPR data and provides easy to understand imagery of all identified elements. Pipe penetrating radar enables pro-active preventative maintenance planning with thorough assessments of critical infrastructure.



(Id.)



(See, e.g., SewerVue Pipe Penetrating Radar – In-Pipe GPR on the Surveyor (YouTube.com, available at: https://www.youtube.com/watch?v=_bfg8TwYWPA)).



(See e.g. Ex. 6).

63. SewerVue possesses knowledge of and is aware of the '800 patent by virtue of, at a minimum, the filing of this Complaint and, on information and belief, had prior knowledge of the '800 patent at least by virtue of its knowledge of the RedZone robot and software being covered by numerous patents including the patents at issue and other facts described above including in at least paragraph 15.

64. SewerVue also has been and is now actively inducing infringement of one or more claims of the '800 patent, either literally or under the doctrine of equivalents.

65. On information and belief, SewerVue alone and/or acting in concert with, directing and/or authorizing its clients to make, use, sell, or offer for sale in the United States or import into the United States the Surveyor robot and its associated software products, possesses an affirmative intent to actively induce infringement by others. On information and belief, SewerVue induces its clients to infringe.

66. SewerVue has intended, and continues to intend to induce infringement of the '800 patent by others and has knowledge, with specific intent, that the inducing acts would cause infringement or has been willfully blind to the possibility that its inducing acts would cause the infringing acts. For example, SewerVue is aware that the features claimed in the '800 patent are features in the Surveyor robot and associated software products and are features used by others that purchase or license the Surveyor robot and associated software products and, therefore, that purchasers and end users will infringe the '800 patent by using the Surveyor robot and associated software products. SewerVue actively induces infringement of the '800 patent with knowledge and the specific intent to encourage that infringement by, *inter alia*, disseminating the Surveyor robot and associated software products and providing promotional materials, marketing materials, training materials, instructions, product manuals, user guides, and technical information (including but not limited to the demonstration video and brochure described in this Count of the Complaint) to others including, but not limited to, resellers, distributors, customers, municipalities, and/or other end users of the Surveyor and related software products. Those third parties directly infringe the '800 patent by making, using, selling, offering for sale, and/or importing the Surveyor and related software products.

67. SewerVue also has been and is now contributing to the infringement of one or more claims of the '800 patent, either literally or under the doctrine of equivalents.

68. SewerVue has actively, knowingly, and intentionally contributed and continues to actively, knowingly, and intentionally contribute to the infringement of the '800 patent by having sold or offered to sell and continuing to sell or offer for sale the Surveyor robot and/or the associated software products within in the United States and/or by importing the Surveyor robot and/or the associated software products into the United States, with knowledge that the

infringing technology in the Surveyor robot and/or the associated software products is especially made and/or especially adapted for use in infringement of the '800 patent. SewerVue has contributed to the infringement by others with knowledge that the infringing technology in the Surveyor robot and/or the associated software products is a material part of the patented invention, and with knowledge that the infringing technology in the Surveyor robot and/or the associated software products is not a staple article of commerce suitable for substantial non-infringing use, and with knowledge that others including, but not limited to, resellers, distributors, customers, municipalities, and/or other end users of the Surveyor robot and/or the associated software products, infringe and will continue to infringe the '800 patent because, due to their specific designs, the Accused Products and components thereof do not have any substantial non-infringing uses. SewerVue has such knowledge at least because the claimed features of the '800 patent are used by others including, but not limited to, resellers, distributors, customers, municipalities, and/or other end users of the Surveyor robot and/or the associated software products.

69. On information and belief, SewerVue knew or should have known of the '800 patent and has acted, and continues to act, in an egregious and wanton manner by infringing the '800 patent. On information and belief, SewerVue's infringement of the '800 patent has been and continues to be willful and deliberate. The market for in-pipe inspection robots and related software products is small and contains a limited number of competitors, with RedZone being a known pioneer with whom SewerVue has great familiarity. SewerVue has had ample access to RedZone's technology. Upon information and belief, SewerVue knowingly developed and sold its competitive knockoff products in an infringing manner that was known to SewerVue or was so obvious that SewerVue should have known about this infringement.

70. On information and belief, despite knowing that its actions constituted infringement of the '800 patent and/or despite knowing that there was a high likelihood that its actions constituted infringement of the patent, SewerVue nevertheless continued its infringing actions, and continues to make, use and sell its infringing products.

71. SewerVue's acts of infringement have injured and damaged RedZone.

COUNT 4: INFRINGEMENT OF THE '124 PATENT

72. RedZone incorporates by reference its allegations in Paragraphs 1–71 as if fully restated in this paragraph.

73. On information and belief, SewerVue has been and is now directly and/or indirectly infringing, literally and/or under the doctrine of equivalents, the '124 patent by making, using, selling, and/or offering for sale in the United States, and/or importing into the United States, products covered by one or more of the claims of the '124 patent, including the Accused Products.

74. The '124 patent is generally directed to a device and method for “traversing [a] pipe, and capturing data associated with the pipe while the pipe is being traversed.” (Ex. 4 at 2:40–42). The device is further described as an “autonomous mobile robot includ[ing] a sensor portion and a chassis portion. The sensor portion is electrically and mechanically connected to the chassis portion.” (Ex. 4 at 3:47–49). “The sensor portion includes a plurality of sensing devices (e.g., a camera, a radar device, a sonar device, an infrared device, a laser device, etc.) for sensing the conditions within the environment, a computing device communicably connected to the sensing devices and having a processor for processing raw information captured by the sensing devices, a memory device communicably connected to the computing device for storing the raw and/or processed information, and control circuitry communicably connected to the

computing device for controlling various components of the autonomous mobile robot. The memory device may also be utilized to store software which is utilized by the autonomous mobile robot to navigate, explore, map, etc. the environment.” (Ex. 4 at 3:65–4:11).

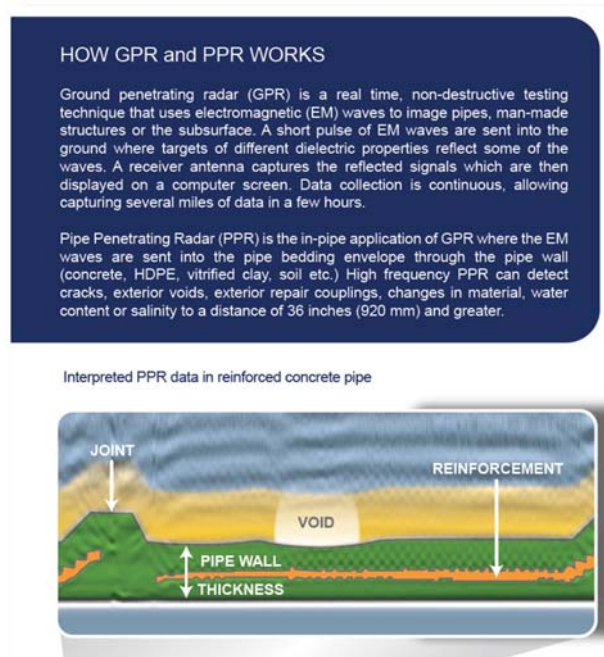
75. The ’124 patent offered technological solutions to the failings in the prior art that were not well-understood, routine, or conventional. In one example, the conventional wheeled robots suffered from “less than adequate” performance (Ex. 4 at 1:22–23). “Robots which utilize wheels or narrow tracks often encounter debris or other obstacles in the pipe which the robot is unable to navigating past or through. In many situations, the wheels or narrow tracks of the robot do not come in contact with the debris in the center of the pipe. In such situations, the robot is not able to climb over the debris.” (Ex. 4 at 1:23–30). The invention of the ’124 patent provides a technological solution to these shortcomings. As described by the patent, in the claimed robot, “the first and second tracks collectively form nearly the entire ‘front,’ ‘bottom,’ and ‘rear’ surfaces of the chassis portion. Thus, when the autonomous mobile robot encounters any debris or feature within the sewer pipe, the first surfaces of the first and second tracks come in contact with the debris or feature. In contrast to wheeled robots and narrow track robots, the full coverage/wide tracks are configured to enable the autonomous mobile robot to climb over the debris or feature and continue performing the inspection, navigation, mapping, etc.” (Ex. 4 at 5:10–20).

76. Claim 1 of the ’124 patent recites a device, comprising: a sensor portion, wherein the sensor portion comprises a plurality of sensing devices; and a chassis portion connected to the sensor portion, wherein the chassis portion comprises: a first track; and a second track positioned adjacent the first track, wherein the first and second tracks cooperate to substantially cover an entire width of the chassis portion.

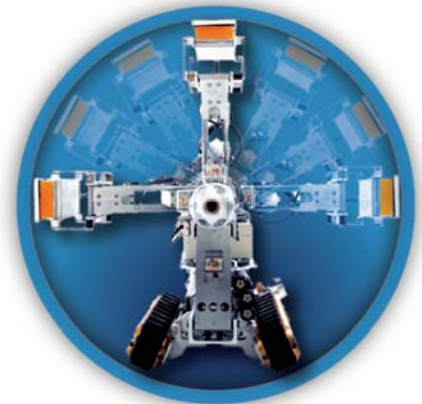
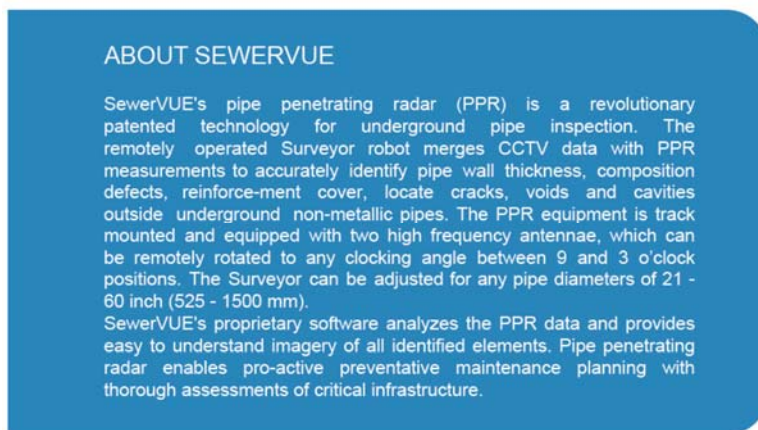
77. Upon information and belief, the Accused Products infringe at least claim 1 of the '124 patent. For example, the Accused Products comprise a sensor portion wherein the sensor portion comprises a plurality of sensing devices, as shown for example, by the SewerVue brochure:



(*See, e.g.*, Ex. 5).



(Id.)

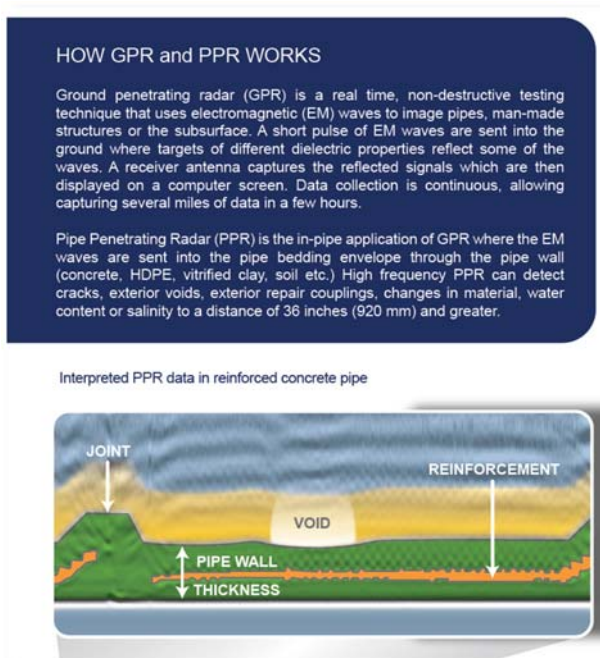


(Id.)

78. Upon information and belief, the Accused Products comprise a chassis portion connected to the sensor portion, as shown by the SewerVue brochure:



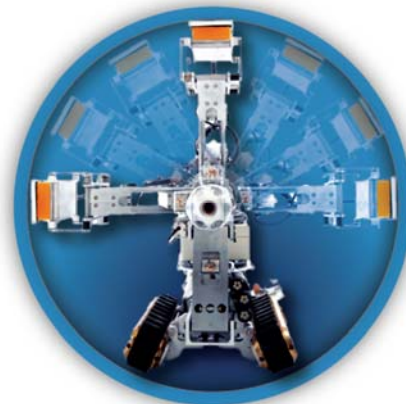
(See, e.g., Ex. 5).



(Id.)

ABOUT SEWERVUE

SewerVUE's pipe penetrating radar (PPR) is a revolutionary patented technology for underground pipe inspection. The remotely operated Surveyor robot merges CCTV data with PPR measurements to accurately identify pipe wall thickness, composition defects, reinforcement cover, locate cracks, voids and cavities outside underground non-metallic pipes. The PPR equipment is track mounted and equipped with two high frequency antennae, which can be remotely rotated to any clocking angle between 9 and 3 o'clock positions. The Surveyor can be adjusted for any pipe diameters of 21 - 60 inch (525 - 1500 mm). SewerVUE's proprietary software analyzes the PPR data and provides easy to understand imagery of all identified elements. Pipe penetrating radar enables pro-active preventative maintenance planning with thorough assessments of critical infrastructure.

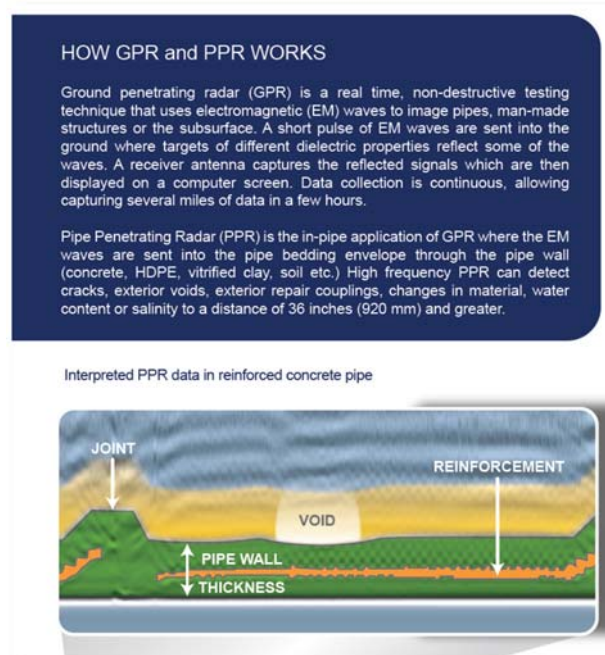


(*Id.*)

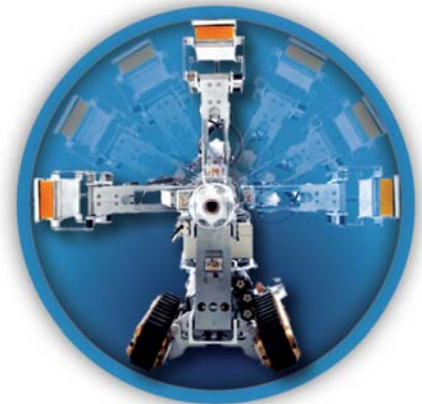
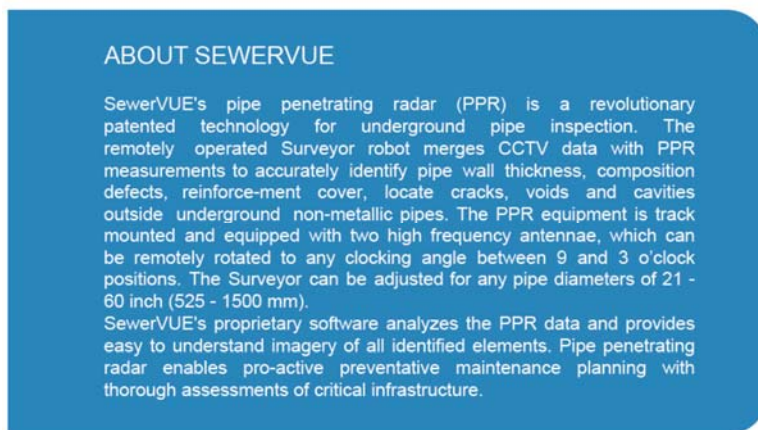
79. Upon information and belief, the chassis portion of the Accused Products comprises a first track and a second track positioned adjacent the first track, wherein the first and second track cooperate to substantially cover an entire width of the chassis portion.



(*See, e.g.,* Ex. 5).



(Id.)



(Id.)

80. SewerVue possesses knowledge of and is aware of the '124 patent by virtue of, at a minimum, the filing of this Complaint and, on information and belief, had prior knowledge of the '124 patent at least by virtue of its knowledge of the RedZone robot and software being covered by numerous patents including the patents at issue and other facts described above including in at least paragraph 15.

81. SewerVue also has been and is now actively inducing infringement of one or more claims of the '124 patent, either literally or under the doctrine of equivalents.

82. On information and belief, SewerVue alone and/or acting in concert with, directing and/or authorizing its clients to make, use, sell, or offer for sale in the United States or import into the United States the Surveyor robot and its associated software products, possesses an affirmative intent to actively induce infringement by others. On information and belief, SewerVue induces its clients to infringe.

83. SewerVue has intended, and continues to intend to induce infringement of the '124 patent by others and has knowledge, with specific intent, that the inducing acts would cause infringement or has been willfully blind to the possibility that its inducing acts would cause the infringing acts. For example, SewerVue is aware that the features claimed in the '124 patent are features in the Surveyor robot and associated software products and are features used by others that purchase or license the Surveyor robot and associated software products and, therefore, that purchasers and end users will infringe the '124 patent by using the Surveyor robot and associated software products. SewerVue actively induces infringement of the '124 patent with knowledge and the specific intent to encourage that infringement by, *inter alia*, disseminating the Surveyor robot and associated software products and providing promotional materials, marketing materials, training materials, instructions, product manuals, user guides, and technical information (including but not limited to the demonstration video and brochure described in this Count of the Complaint) to others including, but not limited to, resellers, distributors, customers, municipalities, and/or other end users of the Surveyor and related software products. Those third parties directly infringe the '124 patent by making, using, selling, offering for sale, and/or importing the Surveyor and related software products.

84. SewerVue also has been and is now contributing to the infringement of one or more claims of the '124 patent, either literally or under the doctrine of equivalents.

85. SewerVue has actively, knowingly, and intentionally contributed and continues to actively, knowingly, and intentionally contribute to the infringement of the '124 patent by having sold or offered to sell and continuing to sell or offer for sale the Surveyor robot and/or the associated software products within in the United States and/or by importing the Surveyor robot and/or the associated software products into the United States, with knowledge that the infringing technology in the Surveyor robot and/or the associated software products is especially made and/or especially adapted for use in infringement of the '124 patent. SewerVue has contributed to the infringement by others with knowledge that the infringing technology in the Surveyor robot and/or the associated software products is a material part of the patented invention, and with knowledge that the infringing technology in the Surveyor robot and/or the associated software products is not a staple article of commerce suitable for substantial non-infringing use, and with knowledge that others including, but not limited to, resellers, distributors, customers, municipalities, and/or other end users of the Surveyor robot and/or the associated software products, infringe and will continue to infringe the '124 patent because, due to their specific designs, the accused products and components thereof do not have any substantial non-infringing uses. SewerVue has such knowledge at least because the claimed features of the '124 patent are used by others including, but not limited to, resellers, distributors, customers, municipalities, and/or other end users of the Surveyor robot and/or the associated software products.

86. On information and belief, SewerVue knew or should have known of the '124 patent and has acted, and continues to act, in an egregious and wanton manner by infringing the

'124 patent. On information and belief, SewerVue's infringement of the '124 patent has been and continues to be willful and deliberate. The market for in-pipe inspection robots and related software products is small and contains a limited number of competitors, with RedZone being a known pioneer with whom SewerVue has great familiarity. SewerVue has had ample access to RedZone's technology. Upon information and belief, SewerVue knowingly developed and sold its competitive knockoff products in an infringing manner that was known to SewerVue or was so obvious that SewerVue should have known about this infringement.

87. On information and belief, despite knowing that its actions constituted infringement of the '124 patent and/or despite knowing that there was a high likelihood that its actions constituted infringement of the patent, SewerVue nevertheless continued its infringing actions, and continues to make, use and sell its infringing products.

88. SewerVue's acts of infringement have injured and damaged RedZone.

PRAYER FOR RELIEF

WHEREFORE, RedZone respectfully requests that this Court:

- a. enter a judgment that RedZone is the owner of all right, title, and interest in and to the patents-in-suit, together with all the rights of recovery under such patents for past and future infringement thereof;
- b. enter a judgment that SewerVue has infringed each of the patents-in-suit;
- c. enter a judgment that the patents-in-suit are valid and enforceable;
- d. permanently enjoin SewerVue, their parents, subsidiaries, affiliates, agents, servants, employees, attorneys, representatives, successors and assigns, and all others in active concert or participation with them from infringing the non-expired patents-in-suit;

- e. order an award of damages to RedZone in an amount adequate to compensate RedZone for SewerVue's infringement, said damages to be no less than a reasonable royalty;
- f. enter a judgment that the infringement was willful and treble damages pursuant to 35 U.S.C. § 284;
- g. order an accounting to determine the damages to be awarded to RedZone as a result of SewerVue's infringement, including an accounting for infringing sales not presented at trial and award additional damages for any such infringing sales;
- h. assess pre-judgment and post-judgment interest and costs against SewerVue, together with an award of such interest and costs, in accordance with 35 U.S.C. § 284;
- i. render a finding that this case is "exceptional" and award to RedZone its costs, expenses, and reasonable attorneys' fees, as provided by 35 U.S.C. § 285; and
- j. grant such other and further relief as the Court may deem proper and just.

DEMAND FOR A JURY TRIAL

RedZone hereby respectfully requests a trial by jury of all issues so triable, pursuant to Fed. R. Civ. P. 38.

Dated: November 12, 2020

OF COUNSEL:

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Arvind Iyengar (*pro hac vice application forthcoming*)

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